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THE RELATION OF TEETH TO GENERAL HEALTH.

BY CHARLES H. LAWRENCE, M.D., BOSTON.

UNTIL recently, the physician regarded the teeth as the dentist's responsibility, and looked upon their function as a purely mechanical one, beneficial indeed, but not absolutely essential. The effect of general diseases such as syphilis upon the teeth was recognized, but regarded as of importance largely as a diagnostic sign of disease, and the loss of an efficient mechanism for mastication was of importance mainly from a cosmetic point of view. True, medical literature since the time of Hippocrates contains occasional observations concerning the effect of the teeth on general health, but these are usually concerned with their influence upon the development of the jaws and facial bones. As portals of entry for infection, the tonsils enjoyed unchallenged popularity, and the systemic degenerative diseases were usually ascribed to the effects of heredity, exposure, alcohol, diathesis, or autointoxication.

Gradually, however, by scattered reports of relief from so-called incurable conditions following the extraction of carious or abscessed teeth, attention was turned toward them as possible etiological factors in organic disease. And when, in 1914, Rosenow[1] reported that organisms of the streptococcus-pneumococcus group could gain entrance to the body through the teeth, and thence hie themselves to its uttermost parts, changing their appearance as they went, the medical profession enthusiastically accepted diseases of the teeth as the roots of all the evil which had not previously been assigned to some other cause.

Pyorrhea was suspected of causing many of the diseases of the digestive tract, and when peridental and apical abscesses were found coexisting with nearly all chronic organic disease, it seemed logical to many minds to establish a causal relation between the former and the latter. The result thus far has been an awakened appreciation of the importance of the care of the mouth, which is undoubtedly beneficial, and the extraction of thousands of teeth, the beneficial effects of which are in many cases open to doubt.

A review of the literature brings to light a vast deal of theory upon the relation of dental conditions to general health. It is theory only, and while it is valuable in stimulating research, it does not form a sound basis for treatment

of patients. It is important, from the practising physician's point of view, to separate theory from proven facts, and to use the former as a guide in his examination of problems, the latter as the criteria of his procedure.

What are the facts concerning the first, or temporary teeth? That their eruption may cause loss of appetite, depression of the digestive function and nervous irritability in a child seems proven by clinical experience. It was long believed that "cutting teeth" was an adequate explanation of convulsions in infants. I cannot find satisfactory proof of this theory, and I believe that it is dangerous to accept it without reservation. There have been instances in which no other cause for convulsions was found by most thorough examination, but they are rare. Eruption of a tooth should never be accepted as the cause of convulsions until most painstaking examination has eliminated all other possible causes.

Malocclusion of the temporary teeth has been satisfactorily proven to cause improper development of the palatal arch and facial bones, with resulting nasal obstruction and its results. And there is no doubt that a high percentage of children with badly decayed teeth show other physical defects: Adenopathies, anemias, iritis, nasal obstruction, otitis, and rachitis. Odenthal,[2] for example, found glandular swellings in 99% of children having badly decayed teeth, against 49% of those having no caries. Dr. Wright of the Harvard Dental School has shown that contagious diseases are more frequent in children with carious teeth than in those whose teeth are sound. But does the coexistence of carious teeth and systemic disease prove that the former cause the latter? Or is the reverse true in some cases? or may both be due to improper diet and malnutrition? It must be borne in mind that carious primary teeth usually mean a neglected child, and that other factors, such as improper diet, or obstructed breathing, are probably present.

These conditions must be eliminated before a coincident anemia or infection can fairly be ascribed to the dental caries. The general health will, of course, always be benefited by the proper treatment of the diseased teeth, but caution must be exercised in accepting them as the cause of systemic disease, in order that less easily demonstrated but more important factors be not overlooked.

More important than the temporary teeth as factors in general health is the second or so-called permanent denture. Persisting much longer, it is by that very fact more subject to diseases. These occur most frequently after the middle of the third decade, and are thus contemporaneous with the degenerative systemic diseases. Research upon the causes of these conditions has disclosed the fact that infection in and around the teeth commonly coexists with many pathological conditions of obscure origin, and that in certain instances, improvement in general health follows the elimination of the dental sepsis.

Billings[3] has shown clinically that infection of the teeth is common in patients with chronic arthritis, and that elimination of such infection often has a beneficial effect upon the joint condition. Cultures of the streptococci obtained from apical abscesses have caused arthritis when injected into rabbits. Gilmer[4] has found pyorrhea or apical abscesses in the majority of patients seen by him for iritis and allied ocular diseases. Miller[5] has isolated 58 varieties of organisms from the mouth, "many of which were pathogenic or under certain conditions might become so." Hartzell and Henrici[6] were able to demonstrate the streptococcus viridans almost invariably among other organisms in cultures taken from apical abscesses, and even in cultures from the roots of healthy teeth. Thoma[16] has shown that maxillary sinusitis is often secondary to apical abscess, and has called attention to its relation to other diseases of the nose and throat.

The situation is summed up by Barker,[7] who in 1918 stated that arthritis, osteitis, osteomyelitis, periostitis, myostitis, embolic pneumonia, pleuritis, nephritis, ureteritis, myocarditis, endocarditis, pericarditis, lymphadenitis, neuritis, neuralgia, iritis, anemia, septicemia, and pyemia, may in certain cases have their origin in oral sepsis, and that there is a growing tendency to look upon the same etiological factor as contributory in many instances to chronic degenerative diseases like arteriosclerosis and hypertension. He further enumerates the following disturbances of the digestive tract as the most common ones associated with oral sepsis: Gastritis, gastroenteritis, achylia gastrica, pylorospasm, toxic hepatopathies, and probably some cases of gastric and duodenal ulcer.

It would seem that the quantity of evidence against the teeth was overwhelming. But a

careful analysis of its quality makes conviction less certain. The majority of the articles are statements that infected teeth were found in the mouths of those suffering from a given disease, or assertions that oral sepsis *may* in certain cases, cause pathological conditions. Granting the possibility, is there any available evidence as to how often they do?

Hammond, analyzing forty cases of arthritis, found that in only twelve were the teeth alone diseased. After treatment, one case showed striking and immediate improvement, one improved after subsequent use of vaccine, three cases showed "some improvement," two were unimproved after extraction and one after pyorrhea treatment, one improved without dental treatment, and one could not be traced.

At the Robert Brigham Hospital, examination and treatment of the teeth of all patients was carried out systematically. Dr. Thoma, who had charge of the work, found that in a series of eighty-one patients, seventy-two had dental abscesses, and that in order to put their mouths in proper condition it was necessary to extract three hundred and thirty-four teeth. These patients were suffering from chronic disease, in the majority of cases arthritis of long duration. In very few was there definite improvement following the extractions. This does not prove that the local infection, if that be the cause of arthritis, did not originally gain entrance through the teeth. If so, it had become firmly established in the joints, and late extraction could do no good. It must be remembered, however, that many sound bacteriologists have been unable to confirm Rosenow's finding of streptococci in the majority of arthritic joints, so that the assumption that the teeth are portals of entry for infecting organisms in arthritis is as yet not firmly established. The fact that streptococci cultivated from the teeth cause arthritis in rabbits loses much of its significance in the light of Billings' statement that "streptococci from any source may produce acute joint lesions in inoculated animals, especially rabbits."

Almost every physician, however, has seen cases of chronic disease which improved remarkably after the elimination of dental sepsis. It is not to be denied that infected teeth cause disease elsewhere in the body, but I can find no convincing evidence that they are usually responsible for the many diverse conditions ascribed to them. Black[8] reports a series of roentgenograms of all the teeth of three hundred individuals. They were selected irrespective of medical and dental histories, and examined for the existence of oral and systemic disease. There were eighty patients under twenty-five years of age so examined. Forty-eight, or 60%, showed x-ray evidence of peridental or apical abscesses, or both. Sixty-nine, or 86%, were classified as negative as regards systemic disease; six, or 7.5%, complained of occasional muscular or joint pain, and five, or 6%, gave a story of well defined systemic disease. There were fifty-one patients between the ages of twenty-five and twenty-nine. Thirty-eight, or 71%, had dental sepsis, and three, or 5%, had systemic disease. Between thirty and thirty-nine years of age, 87% of patients showed oral sepsis, with 9% of organic disease; between forty and forty-nine years, 89% had abscessed teeth and 20% had systemic disease, while after fifty years of age tooth infection was present in 100%, and 32% had organic pathology. It will be noted that there was a sharp rise in systemic disease incidence between 40 and 49, though there was only a 2% increase in dental sepsis as compared with the preceding decade. The figures for the entire series showed that 77% of all the patients had dental abscesses, and 77% were free from organic disease, 23% giving systemic pathology. The presence or absence of other possible causes of the systemic diseases was not noted by Black, nor is there a comparison, as regards general health, with a series in which he found no sepsis. It cannot be said, therefore, how much the incidence of organic disease was increased by the oral sepsis, but there is no indication that dental infection was a fertile cause of pathological conditions. Hammond[9] states that in the majority of cases the dental lesion is so thoroughly walled off that many deny the possibility of this condition becoming a focus of infection except in rare instances.

However thoroughly the septic process may be walled off, it is conceivable that it may cause systemic degenerative changes by acting as a source from which continued absorption of small amounts of protein takes place. These small continued doses of poison may act directly on the various tissues, or may sensitize the body to a whole group of proteins which would then act as toxic agents. It has been shown by Miller that protein sensitization is not specific, and the work of Walker demonstrates

that a patient sensitized to one protein is usually sensitized to several. The beneficial results in arthritis, obtained by intravenous injections of suspensions of dead typhoid bacilli also suggest that arthritis may be due to protein poisoning.

The great objection to this theory lies in the fact that it has never been demonstrated, in a sufficient number of instances of coexisting dental and systemic disease, which existed first. Cardiac disease, nephritis, arteriosclerosis, anemia, indeed all chronic diseases have a depressing effect upon the general health, which may conceivably allow previously sound teeth to become infected. That pathogenic organisms do exist in the roots of healthy teeth has been shown by Hartzell and Henrici, and the injurious effect of chronic disease upon the nutrition of the teeth has long been known. It therefore seems as logical to suppose that an anemia or a nephritis may depress the local resistance and allow active dental infection to occur as that the reverse is the case. Carbuncles and diabetes frequently coexist, and proper treatment of the carbuncle usually improves the diabetic's condition, but it is not argued that carbuncles cause diabetes. In regard to oral sepsis in this disease, Joslin[10] says, "It is my impression that the changes in the teeth are subsequent to the onset of the diabetes, but I am open to conviction on this point." At present, who can say more, as regards any chronic disease, on either side of the case, if individual instances are excepted?

Because of these individual instances, in which the elimination of dental sepsis gives brilliant results, there is a tendency to regard any tooth which shows an abnormal shadow on the x-ray film as the cause of almost any coexisting disease of obscure origin. As is usually the case when a new discovery is made, there has been too much enthusiasm concerning the possibilities of dental infection, too much generalization, and too little careful, critical investigation. Many ingenious theories have been advanced, and a few facts established. It may be regarded as proved that in certain instances dental sepsis does cause systemic disease. Therefore a careful examination of the teeth should always be made, and the patient should be questioned concerning dental symptoms. It should be remembered that the absence of pain does not exclude abscesses at the roots, and that if no other foci are found, and the systemic disease suggests focal infection as an etiological factor, dental consultation and x-ray examination of the teeth should be made. Infected teeth which serve no useful purpose should always be extracted. But if the x-ray findings alone are positive, extraction of useful teeth should be reluctantly performed, since results show that benefit is obtained in only a small number of cases and the extracted tooth is not always as bad as the x-ray indicated. No promises of cure should be made, and the patient should clearly understand that the operation is in the nature of an experiment. Even though dental infection be present a careful search should be made for other foci. Absorption from tonsils, pharynx, sinuses, pulmonary infections, digestive and genitourinary tracts should be eliminated before the teeth are held accountable. It must be remembered that caecal stasis, a diseased gall bladder, or an infected prostate may be the cause of systemic disease, and foci which can be eliminated without the loss of useful organs should be treated before suspected teeth are extracted. Oral sepsis which can be successfully treated without sacrificing the efficiency of mastication should be eliminated in every case. It should not be forgotten, however, that mastication is an important part of digestion, and that disorder of nutrition may arise from lack of teeth. In his work on disease of the heart, MacKenzie[11] says, "The great importance of oral digestion is not sufficiently appreciated. Not only does the process of mastication in several subtile ways stimulate the digestive glands of other organs, but the juices from the mouth which are mixed with the food not only assist digestion but prevent the flatulence which is so often a troublesome feature in the weakened digestion of heart failure." This statement applies with equal force to a large number of chronic diseases, the treatment of which is greatly complicated by an ill behaving stomach or a foul mouth due to lack of sufficient teeth for chewing. Anemia and disorders of the digestion may be due in some cases to dental sepsis—in others they are as surely caused by too radical extraction in its treatment.

For this reason, when extraction is necessary, care should be taken that the patient is not left with an insufficient masticating mechanism. The extraction of the diseased teeth is often only half the battle—substitutes must be furnished. The method of doing this is of course

a question for the dentist to decide, but I believe that from the standpoint of cleanliness, artificial teeth should not be permanently fixed in the mouth. From the medical point of view, permanent bridge work and similar devices are not desirable.

Such, I believe, are the facts concerning the relation of the teeth to general health. They should not be confused with the theories. The latter are interesting, and will in the future answer questions which are at present vexatious —but they do not form a basis for the intelligent treatment of the individual problem.

The need at present is a method of determining whether the teeth are the cause of the organic disease. So far, this test consists in extracting the teeth and awaiting the result. A test which can be used before extraction would render such a method unnecessary. Cotton[12] has employed the complement fixation test, and finds it valuable in doubtful cases. Unfortunately the technical difficulties of the test greatly limit its use. In conjunction with Thoma, I am at present using the skin reaction to bacterial proteins in a series of cases to ascertain its usefulness in determining the part played by oral sepsis in any individual instance. Our series is not yet large enough to draw deductions from, but if the test proves reliable, its simplicity will make it available in all cases. Thus far, the results obtained by the skin reaction have coincided with the bacteriological findings. A full report will be made when sufficient evidence has been obtained.

Until more clinical facts are available, caution should be used in promising results from the extraction of diseased teeth. Even though extraction is necessary from the point of view of mouth cleanliness, it may not cause improvement in a long established disease process. Unjustifiable enthusiasm is sure to cause reaction, and bring ill repute upon a theory, which though not yet properly tested, offers real hope in the solving of many difficult problems in medicine.

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THE MILK SITUATION.

BY HOWARD SWIFT, CONCORD, MASS.

FOR the last twenty-five years, here in Massachusetts, there have been sporadic attempts to clean up the milk situation. The diseases that are transmitted through milk that are of any great danger to man are diphtheria, typhoid fever, scarlet fever, foot and mouth disease, septic sore throat, and tuberculosis. The first four are now well regulated; in the United States we are free from foot and mouth disease, and the first three, being acute infectious diseases, are watched carefully. Septic sore throat breaks out occasionally, but it is not so very prevalent, while tuberculosis, a slow insidious disease, chronic in nature, is an enemy that should be considered seriously.

There are three types of tuberculous organisms,—avian, human, and bovine. The avian does little damage, although it is a menace to poultry men. The human type may be transmitted through milk as typhoid, diphtheria and scarlet fever are, but that is more or less a simple thing to control. The bovine type is larger than the human or avian and more virulent in that it kills both rabbits and guinea pigs, while the human kills guinea pigs only and the avian kills rabbits only. The much discussed question immediately comes up as to whether the bovine type affects humans. [1]Robert Koch, the scientist who discovered the bacillus, said in an address before the Tuberculosis Congress of London in 1901, that bovine and human tuberculosis were different diseases; that the human disease was not transferable to cattle, and that it was not necessary to protect a man from pearl disease or bovine tuberculosis. This statement is right in that human tuberculosis does not materially affect cattle, but bovine tuberculosis does materially affect man, as has been shown by many investigators. It has been found that: [2]"Intravenous injections of tubercle bacilli from human sources, non-virulent for cattle, are capable of conferring an immunity against tuberculosis sufficient to withstand natural infection by association." But the report goes on to say, "Until further knowl-

edge is obtained in regard to the destruction or outcome of the living tubercle bacilli constituting the vaccine, no practical method for the immunization of milk producing animals under ordinary conditions can be advocated." It is also believed by many that childhood infections, caused by drinking milk containing living tubercle bacilli, produce an immunity and therefore tuberculous cows are to some extent a good thing. Very probably that would be true if we were always sure that the child was getting a small regular dose of tubercle bacteria in the milk. The amount of tubercle bacteria in milk is an unknown quantity always and undoubtedly milk from a cow with a tuberculous udder contains an innumerable number of tubercle bacteria which in all probability if fed to a human being would cause a very active case of tuberculosis. The natural answer is to remove any cow with a tuberculous mastitis from the milking line. Unfortunately that is easier said than done because, [3]"Unlike other affections of the mammary gland, tuberculosis does not at once change the appearance and quality of the milk secreted. It is a fact that for months after the disease has appeared in the gland, the milk is to all appearances normal and may be sold and consumed without arousing the least suspicion." [4]"This alteration of milk can occur rather quickly. After one month the milk can become distinctly changed. Usually, however, this does not occur until after two months. There are cases, however, in which the milk had retained its normal appearance until four months after the inception of the condition."

[5]Vanderpoel Adriance, M.D., says that "accumulated evidence shows that childhood infection is only the beginning of an adult tuberculosis and if the children are protected adult tuberculosis will diminish." [6]Dr. Harold Dana repeats the above statement by saying, "Ninety per cent. of all children who reach the age of 14-15 years have tuberculous infection; that most if not all tuberculosis of later life is acquired during childhood. Better milk laws and a cleaner milk supply will diminish, if not abolish, milk borne infection."

Dr. Adriance also gives some figures gathered from various sources. Mitchell, of Edinburgh, in some experiments he conducted on enlarged glands in children, found 90% caused by the bovine bacillus. Melcher found 88% to be bovine. Fraser, on bone tuberculosis, found 62% bovine, 35% human, and 3% both. Pollock found 96% of the children in Vienna reacted to a tuberculin test before 15 years of age. [7]A. P. Mitchell, in examination of milk found, in 406 samples taken from different dealers, 20% to be infected with the bovine type. Dr. Brown[8] of Saranac claims that 8% of all cases are of bovine origin and [9]Drs. Park and Krumwiede of the New York Board of Health say that 12.5% of the fatal cases under five years are of bovine origin. Taking Dr. Brown's figures as fair, there were 11,440 deaths from bovine tuberculosis in 1913.

Remember that milk alone is not the danger—butter, cream, cheese, buttermilk, and bologna sausage, in fact, any dairy product that is eaten raw is dangerous. Taking milk as the commonest cause, pasteurization is believed to be the remedy. Before giving the results of some experiments on pasteurization, let us know the state requirements and what pasteurization is. Pasteurization by law calls for[10] holding milk, not more than 72 hours old at a temperature not less than 140° F. nor more than 145° F. for not less than 30 minutes and immediately cooled to 50° F. or lower. Defined pasteurization is[11]: Heating milk at various temperatures below boiling for a variable period of time. To do this, there are three distinct methods—The "Flash" method, the "Holder" method, and pasteurization in the final container. The "Flash" method, where milk is held at a high temperature for a few seconds and flows continuously is not as satisfactory as the "Holder" method, because some milk may be heated in excess of the temperature intended and some milk may not be heated sufficiently.

Pasteurization in the final container is the best method, because it does not afford any opportunity for the milk to be reinfected. But most of the apparatus constructed to heat milk in the bottles is costly, it is more expensive to operate; the bottles must be tightly sealed, requiring a more expensive cap; larger bottles must be used to take care of the shrinkage in cooling and the vacant space permits the milk to be agitated, which may disturb the cream or cause the cream to butter if agitated while warm. The "Holder" process is the commonest commercial method. Exposure to heat to this extent cannot be depended upon to destroy all the toxins and the decomposition products, which may be present in milk as a result of bacterial growth, while at the same time it destroys

the anti-scorbutic properties of milk. Moreover, it is not certain that it does not decrease the digestibility of milk.

Let us now look at the efficiency of pasteurization as shown by experiments[11] that have been conducted abroad and in this country. Foster and Rullman found that the tubercle bacilli remained alive in milk kept at 140° F. for 45 minutes. DeJong found living tubercle bacilli after an exposure from 159.8° to 161.6° for 30 minutes, and Van de Sluis found that 176° F. for 60 minutes killed bacilli in naturally infected milk, *i.e.*, milk taken from tuberculous animals. In some American experiments with milk artificially inoculated, *i.e.*, non-tuberculous milk that had a pure culture of tubercle organisms poured in, it was found that 140° F. for 10, 15, 20, and 30 minutes was sufficient to kill the bacteria. These experiments were conducted by Russell and Hastings, Theobald Smith, Rosenau, and Hewlett. A word more about these experiments. They were all done with small samples. In naturally infected milk, the organisms are imbedded in mucous masses, fibrin clots, and tissue shreds. This albuminous covering protects them from heat. In commercial pasteurization, large amounts of milk are run through at once, and in many cases a great deal of the milk may not be sufficiently heated. Besides, a great deal depends on the man doing the work. If the milk is run slowly through the 90°-110° region, the optimum temperature for bacilli to multiply, and then run up fast, and if the same thing happens in the cooling, a great many more bacteria are liable to be present. Also a great many doctors dislike to feed pasteurized milk to infants.

[12]"Saving human life affords the highest motive for combating tuberculosis," prevention of financial loss is alone sufficient reason for undertaking the eradication of the disease from farm animals. Taking all items into account, the aggregate animal loss because of tuberculosis among animals in the United States is estimated at not less than $14,000,000." [13]In 1907 the District of Columbia commenced to reduce their bovine tuberculosis figures. At that time there were 18.8% reactors. In 1917 there were .8%. There are, we all know, a great many more cattle in Massachusetts than in the District of Columbia, but nevertheless if done carefully, it is possible to follow the good example that has been set. To attempt such a movement, coöperation with the farmer is essentially needed and Massachusetts will never have the necessary whole-hearted coöperation until the farmer is given a fair show, which means in the first place more than forty dollars for a condemned animal.

The milk producer is a necessity today. He is a manufacturer of one of the most important items of human food that is used. [14]"Of the list of 19 foods, full records of which have been kept by the U. S. Bureau of Labor, milk stands the lowest in point of average increased price from April, 1918, to April, 1919, *viz.*, 70%. The other 18 range from 72% to 123% increase, an average of 93% increase. Not one of the other 18 foods equals milk in all around food value." The farmer must pay more for all he uses, his investment increases as the cow's value increases and yet his product has not increased proportionately. If the reactors should be removed from a farmer's herd he would lose from 135 dollars and up today per head. Is it any wonder that the farmer dislikes to have the word tuberculosis mentioned? Of course the eradication of bovine tuberculosis is a tremendous idea. Perhaps it is the most Utopian of all dreams. At present the idea of eradication and control of human tuberculosis is in the same class. It would appear though that the control of human tuberculosis depended to an appreciable extent on a much closer control of bovine tuberculosis. To control this menace, first allow the farmer something nearer the true value for a condemned animal. He would then be a little more willing to help in the fight. Second, start a demand for tuberculosis-free milk. This can be done and ought to be done by education of the physician first, who in his turn will educate his patients. Some farmers have said that they would make tuberculosis-free milk if there was a market for the product and if they could receive a price that would allow them a better margin in which to stand the losses.

As has been said above, milk has increased less in price than 18 other foods. When eggs are selling at 70 cents a dozen milk should sell at 41 cents a quart. There is 4/7 as much food value in a quart of milk as there is in a dozen of eggs. People do not feed cheap case eggs to children if they can help it. Then why feed cheap, disease-laden milk? There is no question but what milk should cost more money and be made in a better way if it is to be fed raw to

infants, who do not have a very great resistance to disease. Has any one proved that an immunity is produced by drinking infected milk? If that has been done, tuberculous wet nurses would be in demand. Safety First is a popular motto. Is not this the place for it?

To conclude:—Milk in a raw form often endangers the health of infants. The amount of immunity that is transmitted through infected milk for tuberculosis is an unknown quantity. Pasteurization as called for by the present law may not be as safe as is generally believed. There is a considerable loss of life and impaired health directly attributable to the use of infected dairy products. Under the present demand by the public, the producer cannot afford to manufacture a cleaner and better product. Therefore, the medical profession, or those of them who are not awake to the danger, should apply as much prophylaxis as possible.

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THE NEW CLINIC.

AN ADVANCE MOVEMENT IN CHILD WELFARE AND RACE REGENERATION.

BY J. VICTOR HABERMAN, A.B., M.D., M.S.D., NEW YORK.

THE New Clinic is an *idea*, as yet a bit premature, but about to enter the experimental and transversion stage—presently to be an established and familiar fact. The plan calls for the founding of a constituent in behalf of the *normal* child, or let us say a clinic or institution *for the general survey of The Child*, to which children of all ages shall be brought for examination and rating regarding their antecedents and present status in a manner and on a scale not hitherto attempted, and given therapeutic and "constructive" counsel in accordance. Here a child would be studied in relation to its heredity—and its potential and latent trends, normal and abnormal, as intimated through such investigation; its environment and social condition; its infancy and early childhood; its stature, weight, nutrition, development, etc.; its "internal secretions" in their bearing on its growth, maturity and mental development, as well as from the point of view of glandular *type* or "trope," and hence character-*penchant* and disposition to disease; its mental make-up—trends and intelligence; its talents, vocational abilities, etc. Upon the findings noted, therapeutic, pedagogic, social and other corrective measures would be suggested as aids in mitigating or nullifying negative tendencies, in spurring the uphill growth of such individual and inducing the fullest maturing.

A clinic of this nature will inaugurate an entirely new movement in the interest of the child and the community, and, once actualized, will in all probability constitute the real *clinic* of the future. The child will no longer be left to find itself, as at present, nor necessarily reap the mischief of its inheritance, nor first have to fall into disease or upon evil days before being taken in hand and given the necessary advice for its redintegration. On the contrary, the data obtained through modern study of heredity and heritable diatheses, psychopathy, endocrinology, nutrition, etc., etc., and the effective spirit underlying such modern movements as "Mental Hygiene," "Remedial Pedagogics," "Vocational Guidance," "Race Regeneration," "Life Extension," etc., will here actually be applied, and to all children—not only the patently abnormal—of the community.

In a short study published several years ago under the title of "Clinical Psychology in Its Relation to the School and to Social Medicine,"* I already touched upon this matter. Therein I then, among other things, said:

"Abnormalities in the internal secretions may cause mild or serious retardation, possibly mental infantilism, even precocious advance (hyperpinealism?). In fact, such important strides have been made of late in this field of science, that no one, at this stage of investigation, can aver or deny that the internal secretions are not the constructing, stimulating and inhibiting factors in the entire upbuild and psychodynamic leverage of the brain and mind. Our therapeutic and experimentally therapeu-

* Medical Record, Nov. 20, 1915.

tic administration of these gland secretions, so easily carried out, may in time prove of inestimable value in the treatment of mental defects and abnormalities, possibly, too, in the mitigation of fatigue and pathologically affected attention, in the goading of interest, diligence, ambition, even in the stimulation of mental exuberance, physical growth and general maturity. Very aptly did Woods Hutchinson express himself not long ago when he said, 'We are such stuff as ductless glands are made of, and our little life is rounded with a sheep.'

* * * * *

"There is another decidedly grave problem, the one of most far-reaching significance, to be taken up. . . . Can one, during the school years, discern signs or symptoms in the child which possibly presage nervous or mental trouble or disaster for it in the near or remoter future? And if this is so, could one not institute proceedings which would keep such child from becoming a future neurasthenic or hysterical or obsessed or psychopathic individual, or, indeed, from becoming a delinquent or criminal, or from the fate of insanity itself? And can aught be done for that pathetic class of mortals who are entirely normal up to the eleventh or twelfth year, or to puberty, and then suddenly cease progressing, or begin to deteriorate into one of the deplorable forms of dementia? What an immense proportion of our members are finally disposed of under one or other of these ominous headings!

"And yet we know through such studies as those of Ziehen, Stelzner, and others, that a very large number of such individuals show prognostic signs of impending mischief in childhood (or may have a sinister augury even in their heredity) and that ever so many can be saved to themselves and the State if treated and mentally nutured in time."

Since then the idea has grown apace, and we now have in mind a fully rounded clinical procedure which would overhaul each child physically, mentally, socially and especially anent its latent potentials, and thus work out its horoscope, so to speak, and rearrange its constellations.

We suggest first, the starting of a single such clinic or *center* at which this work would be pursued under direction of a staff of experts, statistical data gathered and the work taught to other groups who would presently carry on elsewhere. In time, every public and private school should have its contingent of examiners and advisers,—a special "personnel" —caring for its individual charges.

It is scarcely an exaggeration to augur that at some near future day the child will not only be fed proper food in order to thrive, but endocrine substances, so as to equilibrize and harmonize growth-tendencies in its physical and mental maturing. The child of dwarfed stock will be given something—possibly thymus-pituitary-thyroid substance—to increase its stature. Such as are sprouting over-tall and lanky will be offered something—possibly gonad substance —to hold their bones in check. The child that is dull or mentally inactive through inheritance or constitutional make-up, will be fed with thyroid or gland combinations, thus to stimulate cortical growth and metabolism. If neuropathy is noted in its inheritance or tuberculosis in the home, the child will be placed in an open-air school and trained with an eye to storing up resistance and meeting eventualities with reserve energy and brawn. Sedative inhibition will be prescribed for some, stimulation for others. Many will be taken from their homes and placed in brighter or more propitious environment, for cheerfulness is necessary to a healthy unfolding, and in all probability, even rhythmic dancing will have its therapeutic place in the school, to dissipate fatigue and foster exhilaration and joy. Not only, however, will the child be tended with an eye to its shortcomings, but by all means with its abilities and special traits in mind. These will be sought out and opportunity given for their individual development. Already these measures are being plied here and there in progressive hands, and sooner or later the facts themselves will be commonplace. The new clinic is to forestall this movement and place it on a systematized and scientific basis.

INTESTINAL OBSTRUCTION.

By E. A. Codman, M.D., Boston.

(Concluded from page 424.)

Case 5. Perhaps this case should not be included in the series for it did not strictly show obstructive symptoms. However, as the paper is not really a statistical one and the case is typical of an important diagnostic point, I have put it in with the others. The point is

that sarcoma of the intestine, unlike carcinoma, does not cause obstruction. In other words, the consistency of intestinal sarcoma is such that it sloughs out centrally and grows peripherally, whereas cancer usually shrinks in an annular manner. Sometimes cancer looks like a cicatricial ring about the intestine, so small that the inexperienced might take it for a scar. The operator who finds a *large* intestinal tumor may make a guess that it is sarcoma, especially if the tumor is within the small gut. By *large* I mean the size of an apple—even of a small apple!

The practical clinical point I want to make is this: *Intestinal tumors larger than a small apple do not demand an artificial anus.* If they are growing peripherally you may be pretty sure that they are sloughing internally. It is the small contracting kind that make the trouble.

I have had two other cases of intestinal sarcoma which should perhaps be included in this series, but they both followed the same rule. They were large tumors operated on as exploratory laparotomies rather than for obstructive symptoms. In all three cases the tumors were soft and friable and were ruptured in endeavoring to bring them out of the wound. You might describe them grossly as necrotic dilatations of the intestinal canal rather than strictures. All three died soon after the operation.

Even if the tumor is not sarcoma, but a rapidly growing cancer, the chances are that it will slough centrally rather than produce obstruction, and you will be glad that you did not assume that because there existed a tumor, it would necessarily later cause obstruction. The same rule applies to growths of the rectum. Many a patient has been condemned to an artificial anus by the operator assuming that obstruction would necessarily ensue, when as a matter of fact Nature would have sloughed out the growth. Of course in this connection I am speaking only of inoperable growths, for I believe that intestinal cancers should be excised, even if there are evident metastases in the glands and liver. Enterostomy is a wonderful temporary expedient, but only in people with suitable temperaments is it a justifiable condition for daily life, especially if that life is to be a short one. Its true use is to drain the bowel just long enough to give the patient a maximum chance for a radical operation.

Case 13. This, I believe, was the first case of successful intestinal resection and suture for intussuception at the Massachusetts General Hospital. It was, as in Case 28, caused primarily by an inverted Meckel's diverticulum, Unfortunately the patient was a criminal and I fear that society was not helped by his recovery. And, speaking of criminals and intestinal obstruction, I wonder if a certain individual, whom I have several times been called to see at the Massachusetts General Hospital, has ever turned up at the hospitals in Springfield. I know he has at several of the Boston hospitals, and I have heard of him in other cities. He has severe chronic obstruction, probably from postoperative adhesions. There is a large surgical scar on his abdomen, and he presents a most exaggerated case of visible peristalsis. Great coils of intestine writhe about his abdomen. He is a dope fiend and his game is to enter a hospital as an emergency, to be seen by a member of the staff and listen to advice that he will die if he is not operated on. He gets as far as the operating table, and then bolts—refusing at the last minute. In this way he obtains his dose of morphine and then goes out to an apothecary and moves his bowels with croton oil.*

Cases 24 and 31 may be spoken of together on account of their dissimilarity, for one had a maximum amount of small intestine removed, and the other a maximum amount of large gut put out of commission. The first had 235 cm. of small intestine removed for multiple tuberculous strictures. There have been a few cases recorded where even more than this length of intestine has been successfully removed. This patient survived, but later developed tetany and returned to the hospital, where her case was carefully studied by Dr. W. W. Palmer. Palmer published a paper in the *American Journal of Medical Sciences* in December, 1914. This paper shows that there are still young men capable of enthusiasm for medical advance, and with the zeal, application and energy to do the work, which even Fitz might have envied. One must look with admiration on the detailed work, which is reported in this concise, clear, paper of Palmer's. His conclusions show that it is very doubtful if we are ever justified in removing so much of the small intestine. His summary follows:

* In the discussion it developed that several of the surgeons in the audience had seen this person, whose case illustrates the wonderful hypertrophy of which the small intestine is capable.

"1. Absorption studies after resection of more than half of the small intestine are reported.

2. The loss of nitrogen in the stools is four to five times that of normal individuals.

3. The loss of fat in the stools is five to six times the normal loss.

4. A high urinary indican, 800 mgrs. is reported (normal 10-50 mgrs.).

5. Ammonia forms a much larger part of the urinary nitrogen than in normal individuals. This is probably due to the extensive putrefaction taking place in the intestine.

6. The success with which a large portion of the intestine may be removed depends to a large degree on the condition of the intestine remaining. This fact, I believe to be important and should be considered carefully before extensive resections are undertaken.

7. A diet low in fat and moderately low in protein should be given in cases where much intestine has been removed."

Palmer found that he could control the tetany in this patient by alteration of the diet and the administration of calcium. However, he could not at the same time keep up her nutrition. She grew thinner and thinner, and left the hospital weighing about 80 pounds and in very poor mental condition. There were palpable masses in her abdomen suggesting recurrence of the original disease. She died one year and three months after the operation.

On the other hand, the case without the use of the large intestine, grew very fat, or rather, still fatter, for she was fat before the operation.

This patient was first operated on by Dr. Hugh Cabot for a volvulus of the large intestine. A colostomy was done and after the patient recovered a second operation was done to close the fecal fistula. Four and one-half years later I saw her with a recurrence of the acute volvulus, which involved the cecum and most of the large intestine, there being no adhesion of the colon to the parietal wall, either congenital or postoperative. The gut was gigantic, and the obstruction was evidently chronic, for no acute condition could have led to such enormous distention and at the same time thickening of the walls. An emergency cecostomy was again done, but I felt that something more would be necessary to really cure the condition, and accordingly after a few weeks I isolated the large bowel by doing an ileo-sigmoidostomy and dividing the ileum near the ileo-cecal valve and the descending colon just above the ileosigmoidostomy. The proximal end of the descending colon was then brought out on the surface, like an artificial anus, although of course the fecal stream did not pass through it, as the whole large intestine was completely sidetracked. However, it was necessary to do something to provide an exit for the discharge of intestinal mucus which otherwise would accumulate in the enormous blind pouch. Thus it was possible to syringe into the cecostomy and have the washings come out of the colostomy.

My plan in thus isolating the abnormally dilated portion of the intestine, was founded on the idea that it would shrink from disuse, when the fecal stream no longer passed through it, especially as the chronic obstruction was relieved and there would be no gas to dilate the gut. I intended later to excise the isolated portion when it had become reduced to normal proportions, and the mesenteric bloodvessels which had been huge, had, through lack of use, atrophied. The plan worked well, in fact so well that the patient would not consent to another operation. She is still living, eight years after the operation. The cecostomy has closed, but the colostomy is still open and through it every week or two comes a well-formed fecal mass, in appearance and odor much like normal feces, although of course there is no food residue—only the secretions of the intestinal mucosa. The case offers a wonderful opportunity to study the physiology of the large intestine, for not only the chemistry of the secretions could be determined, but food could be injected and the absorptive power of the large intestine studied. Her nutrition does not seem to suffer but she has a hernia in the scar.

All three of the cases of volvulus of the large intestine which I have operated on were of the cecum, although it is said that twists of the sigmoid are more common. All my cases had the fetal type of cecum and ascending colon without parietal adhesion. I am more and more struck by the influence which congenital faults have in bringing about pathologic abdominal conditions. Even inflammatory conditions of the appendix and gall bladder have their real origin in kinks, in many cases. Volvulus is associated with lack of parietal adhesion, just as intussusception is associated with Meckel's diverticulum. Case 32, for instance, had no parietal attachments and the cecum even roamed so

far, that the appendix was attached to the *left* costal border by inflammatory adhesions. In this case I removed the dilated proximal half of the colon, for it seemed certain to get into trouble again if I returned it to the abdomen without some anchor. In Case 19 I did nothing but untwist the gut and put it back and this was the only case which died. Death took place suddenly from pulmonary embolism, after the wound had healed and the patient was about to go home. I assume the embolus was in the stem of the twist all the time, in one of the mesenteric veins. Perhaps such cases are not often reported, and it may be safer to resect than to return the damaged gut.

In looking over the rest of the series to find the lessons they have taught me, which I may transmit to you, I find it a temptation to talk about every case, for I am proud of them all. Moynihan says: "During the operation, the surgeon will need all his dexterity, rapidity, and judgment." Unfortunately these qualities are not transmissible by speech or paper, even if I possessed them, but to my mind success depends more on the surgeon's mental than his manual processes. Knowledge and judgment in using it, seem to me the important factors. Local anesthesia and anociassociation may take the place of much rapidity and skill, desirable as they are. Moynihan concludes his paragraph: "The surgeon must discover what has to be done and must do it with all possible despatch." To that I emphatically agree. I like the use of the word "must." Sometimes it merely means an abdominal section and incision of the first distended coil which presents; sometimes the resection of several feet of intestine, followed by anastomosis. Atypical cases will frequently appear where unusual expedients are necessary, but the more extended our knowledge, the less frequently will the atypical be seen, and the less frequently the expedient be unusual. Judgment really consists in our applying our knowledge of possible expedients to our knowledge of possible pathologic combinations. The surgical interne of today will get better results in these cases than the wisest and most fashionable surgeon of a century ago. His judgment may be poorer, but the range of his knowledge is far greater.

There are a few more of my cases which, though not illustrating as important principles as those I have spoken of at length, may still add to your knowledge of possible pathologic conditions and possible expedients which may be used to combat them.

Case 27, although successful as far as my operation was concerned, had a recurrence of the intussusception twice afterward and was operated on by another surgeon with a fatal result. I regret that I did not excise a gland, the size of a walnut, which lay in the mesentery at the ileocecal junction. This gland was, I believe, the cause of the tendency to invaginate. Judgment at the time said that I did all that "must" be done, and I did it "with all possible despatch." But judgment, now that it has the knowledge of that case and its final result, would insist on enucleation of the little gland. Of the four cases of intussusception here reported three had pathologic entering points. In the fourth none was found; simple reduction and appendectomy was done; no recurrence took place. I do not believe it necessary to "anchor" the gut in cases of reduced intussusception, if no abnormal entering point is found. In ileocecal cases it may be well to take out the appendix.

Cases 25 and 35 illustrate that two cancerous strictures sometimes exist in different parts of the large intestine, and that it is well to look the intestine over before going to work.

Case 25 also illustrates that the same patient may have a tuberculous stricture and later a cancerous one. It teaches that spontaneous umbilical fecal fistula should make us suspect primary cancer of the sigmoid. It illustrates splendidly Porter's method of mobilization of the peritoneum to close large defects of the abdominal wall. This case and Case 30 illustrate what W. J. Mayo has tried to teach us—that cancer of the large intestine, even though advanced enough to involve the abdominal wall, may still be operable, because some types have tendency to spread *only by local extension*, and though presenting a tremendous abdominal mass, do not have metastases. In Case 30 I removed two separate portions of the gut, did four end closures, two lateral anastomoses, and excised the whole mass together with a good-sized piece of the abdominal wall, which the cancer had invaded. Yet no recurrence had taken place five years later.

Case 40 showed that an adherent cancerous omentum can cause obstruction secondarily and that it may be relieved.

Case 21 illustrates the value of an excessively

high leucocyte count (35,000) in arriving at the diagnosis of mesenteric thrombosis. In obstructive conditions the presence of such high counts should suggest this diagnosis. In my opinion, it is almost pathognomonic.

Case 29 adds impaction of a coil of intestine beneath a previous intestinal anastomosis to the list of possible causes, and teaches the wisdom of so suturing the mesentery after anastomosis, that the gut cannot pass under the bridge.

Case 41 illustrates how insidious the onset of complete obstruction may be in cases of cancerous stricture, which have shut down slowly and by dilatation and infiltration of the wall of the intestine have accustomed it to hold an amount of toxic fecal material which probably would have produced death if acute. This patient continued to feel so well, had so little pain and vomiting, that she could not be persuaded to have an operation until two weeks without a movement had passed and various purgatives had been administered. The effectiveness of the purgatives was demonstrated, when her enormously distended tympanitic abdomen was opened and she was found to have had a movement in her own abdominal cavity! The tympany was due to intraperitoneal gas: the intestines, not particularly distended themselves, lay beneath this gas cavity lightly glued with fibrin. On raising the omentum I found a large puddle of free soft feces lying on the adherent coils of small intestine. This was gently wiped out without further exploration and a drain introduced. Although 76 years old, she recovered (of course with a fecal fistula), only to die six weeks later, after an attempt to excise an adherent cancer of the descending colon.

So much for the unusual cases. As to operative technique, I attribute the success of this series almost entirely to the early diagnosis. Next, to the general advance of surgery—such things as general abdominal technique, moist sponges, cigarette drains, avoidance of postoperative cathartics, gentle manipulation, the use of local anesthesia with or without general anesthesia. Preoperative stomach washing and the other things which generally contribute to the success of ordinary cases, are doubly important in these critical cases. There is one method, however, which, owing to the modesty of its originator, needs more advertisement. Monks' work on intestinal localization is known to many but it should be *studied* by every surgeon who ever expects to do an operation for obstruction. The Monks tube should be used in most cases of obstruction and in some cases of wounds of the intestine. I feel sure that some of my earlier cases died from intestinal absorption after the obstruction was released. They stood the operation well, but their toxic symptoms went on rapidly from bad to worse, and they died in the next 24 to 48 hours without rallying. The contrast is striking when the intestine is drained on a Monks tube (any tube will do, *e.g.*, a glass drinking tube). The slight shock the intestinal manipulation causes is well compensated by the result. I believe there is an actual immediate improvement in the pulse, after this is done, comparable to that wonderful improvement the pulse shows when the stomach is washed out for acute dilatation. I even think it justifies a second incision in cases of strangulated hernia, where the outcome seems doubtful. In using it, the only practical hint necessary is to make a large enough incision so that the gut can be threaded on the tube without pulling on the mesentery. When you use it, use it thoroughly, and empty the whole small intestine. The shock caused by threading the tube will be compensated by the shock avoided in closing the wound over distended coils.

There are certain general principles which should influence judgment in these cases:

1. The stomach should be emptied before operation, by the use of the tube. Vomiting is too often partial—a mere overflow.
2. Local anesthesia should be used whether or not general anesthesia is necessary also. This is to combat shock.
3. The obstruction must be relieved.
4. The circulation of the involved gut must be restored, or the non-viable portion resected (with liberal removal of any doubtful infiltrated intestine proximal to the constriction, in cases where immediate suture is contemplated.)
5. The content of the bowel above the stricture should be removed.
6. In all but the most extreme cases, the cause should be at least determined and judgment used as to simple enterostomy or removal of the cause.
7. Recurrence should be considered and if possible prevented.
8. Unessential details should be sacrificed to speed, but the seven principles mentioned take precedence of speed.

Of the expedients to which the surgeon may resort to accomplish the ends the following are the chief:

1. Simple enterostomy—a small median abdominal incision and a deliberate cut in the first distended coil which presents. (Moynihan calls attention to the fact that curiously enough this is usually the most desirable coil.) It is almost as simple to tie in a Paul or Mixter tube and save soiling of the wound. (Case 10.)

2. Search for the cause and selection of the most favorable place for an enterostomy. (Case 24.)

3. Removal of the cause. (a) Taking time for its liberation as in the cases of the bands, twists or invaginations (Case 33); (b) taking time for its excision as in cancer or gut devitalized by twists (Case 4).

4. Removal of cause followed by colostomy (Case 22).

5. Removal of cause followed by anastomosis of intestine (Case 35).

6. Removal of cause, lateral anastomosis and proximal enterostomy (Case 28).

7. Short-circuiting of cause by lateral anastomosis (Case 36).

8. Short-circuiting of cause by exclusion as in Case 24.

9. Ligation of pedicle and enterostomy (Ref., BOSTON MEDICAL AND SURGICAL JOURNAL, April 2, 1908).

10. The use of Monks' tube in addition to any of the above (Case 40).

Success will depend on the surgeon's judgment in choosing the right alternative in accordance with the above principles in the individual case. He must modify his desire for an ideal result by a just estimate of his own technical ability and of the patient's capacity to bear further manipulation.

In my opinion, the use of the Monks or Moynihan tube to remove the poisonous content above the obstruction, should never be given up because of the condition of the patient. A case which would die because of the slight additional shock of this procedure, would surely die later from the septic absorption; on the other hand cases may seem in good condition on the table and yet never rally after an apparently completely successful operation, where the toxic contents are left in the gut. Even when a colostomy is made, toxic absorption may still go on, before peristalsis awakens in the distended, infiltrated, anaesthetized intestine. I am inclined to think that the importance of the factor of toxic absorption is underestimated by the average surgeon who worships speed, but Kocher and Moynihan—true masters of surgery—have given the message for all who will stop to listen.

INFERENCES FROM THE SERIES.

The series includes all the acute and a few severe subacute cases of intestinal obstruction on which I have operated in the last 20 years, and also one in which I assisted Dr. C. A. Porter (Case 25). Cases of low rectal cancer, cases of vicious circle following gastroenterostomy, and cases of strangulated hernia, are not included. Such a small series can hardly be expected to furnish statistics, but we may draw inferences and stimulate someone to investigate the statistics of some large clinic. Since intestinal obstruction is not a distinct pathologic entity but rather a common symptom of several or many conditions, and further, since the line between acute and subacute obstruction is next to impossible to draw, we cannot expect to come to mathematical conclusions. Nevertheless, there is in every surgeon's mind a composite picture of this class of case, which, though hard to define, has a real meaning.

Mortality. Of the 41 cases, 14 died in hospital, although four of these did not die of obstruction, but of pneumonia, or embolus, two or more weeks after the operation. The series of 27 cases since January 1, 1904, have all been successful as far as the relief of obstruction was concerned, although one died of lung embolus on the 16th day and one of pneumonia on the 14th. All the cancer cases but one died of the disease or operation for it sooner or later. There have been no known bad late results among the non-malignant cases, except those described above.

The inference is that modern surgical methods are adequate for the relief of obstruction if we consider:

The influence of early diagnosis. Of the 14 cases which were fatal, all but Case 2 had had symptoms for over 48 hours. Of the 27 which survived 14 had symptoms less than 48 hours, while of the remaining 13 the cause was subacute or an exacerbation of a chronic one.

The inference is that the practitioners of this community have applied the appendicitis lesson

CASE	HOSP. NUMBER	DATE	AGE	SEX	DURATION	RESULT	CAUSE	OPERATION
1	A Western hotel	4/12/99	35	m	48+ hrs.	Death in 14 hrs.	Cicatricial appendix	Appendectomy
2	A private hospital	4/24/00	42	f	24 hrs.	Death in 24 hrs.	Contraction scar penholder	Release bands
3	M.G.H. 374-176 E.S.	7/31/00	78	m	4 days	Death in 24 hrs.	Band mid. small intes.	Release bands; tap. intes.
4	M.G.H. 390-124 E.S.	6/26/01	68	m	3 days	Death in 24 hrs.	Mesenteric thrombosis	Resection 6 ft. enterostomy
5	M.G.H. 390-194 E.S.	7/15/01	32	m		Death in 24 hrs.	Sarcoma small intestine	Resection tumor, enterostomy
6	M.G.H. 392-36 E.S.	7/17/01	33	f	subacute	Death on 14th day	Tuber.stricts. intestines	Resection 14 ins.; anas.
7	M.G.H. 390-230 E.S.	7/22/01	50	m	5 days	Death on 5th day	Annular cancer sigmoid	Resec. and anas.
8	M.G.H. 390-200 E.S.	7/26/01	17	m	48 hrs.	Recovery	Post-op. ads. (recent ap.)	Release and enterostomy
9	M.G.H. 394-102 E.S.	8/12/01	47	m	5 days	Death on 9th day	Post-op. ads. (old)	Enterosotomy
10	M.G.H. 394-182 E.S.	9/ 3/01	31	m	48 hrs.	Recovery	Post-op. ads. (recent)	Enterosotomy
11	M.G.H. 412-163 E.S.	7/ 3/02	30	m	48 hrs.	Death in 48 hrs.	Band from Meckel's div.	Excision diverticulum
12	M.G.H. 128468 E.S.	8/19/02	8	f	24 hrs.	Death in 24 hrs.	Post-op. ads. (recent)	Release and enterostomy
13	M.G.H. 129172 E.S.	9/26/02	24	m	3 days	Recovery	Intussusception (Meckel's)	Resection and anas.
14	M.G.H. 133222 E.S.	7/18/03	19	m	48 hrs.	Death in 48 hrs.	Band from Meckel's div.	Release bands; tap. intes.
15	M.G.H. 136311 E.S.	2/28/04	6	f	24 hrs.	Recovery	Intussus. (ileo-cecal)	Appendectomy and reduction
16	M.G.H. 122-121 S.S.	11/18/05	54	m	24 hrs.	Death in 1 month	Cancer hepatic flexure	Cecostomy
17	M.G.H. 150-318 E.S.	11/17/06	43	m	5 days	Recovery	Undetermined. Anuria	Colostomy and divulsion strict. urethra
18	M.G.H. 155296 E.S.	10/16/07	34	m	5 days	Recovery	Post op. ads. (old)	Release ads.
19	M.G.H. 161404 E.S.	12/ 5/08	62	m	3 days	Death on 16th day	Volvulus cecum.	Release of twist.
20	Malden Hospital	6/10/09		f		Recovery	Ads. from prev. perit.	Release ads.
21	M.G.H. 166524 E.S.	10/23/09	44	m	4 days	Recovery	Mesenteric thrombosis	Resection 4 ft.; anas.
22	M.G.H. 167195 E.S.	12/ 2/09	67	m	24 hrs.	Recovery	Cancer of sigmoid	Resection and enterostomy
23	M.G.H. 169347 S.S.	4/11/10	18	m	48 hrs.	Death on 14th day	Post op. ads. (recent)	Enterostomy
24	M.G.H. 176271 W.S.	5/25/11	45	f	5 days	Recovery	Volvulus cecum	Exclusion large intestine
25	C.H. 53	8/22/12	37	f	subacute	Recovery	Cancer trans. colon & sig.	Resection and anas.
26	M.G.H. 184608 W.S.	8/26/12	21	f	3 days	Recovery	Band from ad. appen.	Release and appendectomy
27	M.G.H. 184848 W.S.	9/ 9/12	5 mos.	f	3 days	Recovery	Intussus. mes. glnd.	Reduction
28	C.H. 105	3/21/13	46	m	34 hrs.	Recovery	Intussus. (Meckel's)	Resection; lat. anas.; enterostomy
29	M.G.H. 188264 E.S.	3/25/13	40	f	5 days	Recovery	Rotation abt. anas.	Reduction and closure opening
30	C.H. 110	3/28/13	57	m	subacute	Recovery	Cancer cecum, ileum, etc.	Resection and anas.
31	M.G.H. 189750 E.S.	6/20/13	39	f	subacute	Recovery	Multiple tuber. strictures	Resection 9 ft. and anas.
32	C.H. 155	9/13/13	66	m	48 hrs.	Recovery	Volvulus cecum.	Resection and anas.
33	C.H. 222	10/ 6/14	45	m	14 hrs.	Recovery	Post-op. ads. (old)	Release ads.
34	Deaconess	10/ 7/14	41	f	3 days	Recovery	Post-ops. ads. (recent)	Release ads.
35	C.H. 237	2/ 3/15	45	f	subacute	Recovery	Cancer sigm.	Resection and anas.
36	C.H. 258	5/18/15	59	m	subacute	Recovery	Cancer (il.-ce. and rec.-sig.)	Lateral anas.
37	Home, Ayer, Mass.	11/16/16	73	f	8 hrs.	Recovery	Band and partial volvulus	Release ads.
38	C.H. 387	3/ 8/17	62	f	18 hrs.	Recovery	Band in appen. region	Release ads.
39	Cousens Hospital	6/22/18	55	m	24 hrs.	Recovery	Post-op. ads. (old)	Release ads.
40	N. E. Sanitarium	7/31/19	63	f	12 hrs.	Recovery	Cancerous omentum	Excision portion, enterostomy
41	York Hosp.	8/19/19	76	f	2 wks.	Recovery	Cancer desc. colon	Drainage of spontaneous perforation

M. G. H. = Massachusetts General Hospital

C. H. = Codman Hospital

(in many cases perhaps unwittingly) to this condition also. But the 48th hour in obstruction is far more significant than in appendicitis.

Pathologic Causes		
Mesenteric thrombosis		3
Tuberculous stricture		2
Malignant stricture		10
Intussusception		4
Volvulus		3
Rotation about anastomosis		1
Bands and adhesions		
not from previous op.	6	
previous op. (recent)	4	
previous op. (late)	5	
Meckel's diverticulum	2	17
		46
Undetermined		1
		41

Inferences. Bands and adhesions are the most common cause although in about half the cases there had been no previous laparotomy. This is surprising, but is substantiated by the statistics of Fitz (1888), who found that bands were the most common cause, although in those days laparotomies were relatively uncommon.

Age in Relation to Cancer. It is said that most cases of obstruction in patients over 45 are due to cancer. Of the 19 cases over 45, 8 were due to cancer, 6 to bands, 3 to volvulus, 1 to mesenteric thrombosis, 1 to intussusception.

Inference. In a patient over 45, if there is no previous history of laparotomy and the onset is not sudden, cancer is much the most probable cause.

Sex. Seventeen females, 24 males, is in accord with previous statistics.

Book Reviews.

A Treatise on Cystoscopy and Urethroscopy. By DR. GEORGES LUYS, Former Interne, Hospitals of Paris; Former Assistant in the Department of Urinary Diseases at the Lariboisiere Hospital; Laureate of the Faculty of the Academy of Medicine. Translated and Edited with Additions by Abr. L. Wolbarst, M.D., New York; Cystoscopist, Beth Israel Hospital; Consulting Urologist, Central Islip and Manhattan State Hospitals; Genito-Urinary Surgeon, West Side German Dispensary and Hospital; Author of "Gonorrhea in the Male," etc. With 217 figures in the text and 24 chromotypographic plates outside the text, including 76 drawings from original water colors. St. Louis: C. V. Mosby Company. 1918.

In these days, when the cystoscope and the urethral endoscope have come to be recognized as the basis of the diagnosis of so many of the diseases which afflict the urinary tract, any book on the subject which comes from the pen of an author of experience cannot fail of interest. Ever since the cystoscope was in the infant stage of its development, Dr. Luys has been keen to provide some means of studying the divided urines, and his segregation was an ingenious effort in that direction.

He now comes forward as an advocate of the direct vision instruments, and this book is, as he says, an effort to "popularize the science of direct vision cystoscopy," and to illustrate in detail the possibility which it offers. Although direct vision cystoscopy has not been received in this country with universal commendation, it has its many followers, and it certainly has its many indications for usefulness.

The book, although a large one, has but few chapters. They deal with the technic of urethroscopy and cystoscopy and their practical applications. In the two chapters, devoted respectively to indirect and direct vision cystoscopy, there are many interesting comparisons of the two methods, and many illustrations of their value in definite conditions. The chapter devoted to the history of endoscopy, urethral and vesical, together with the interesting discussions on its varied technic, make the book of real importance to those concerned in such work. It is pleasant to note the excellent quality of the publisher's work, and to appreciate his wish to make it, in these times of high cost of production, his "contribution to France."

Clinical Case-Taking. By ROBERT D. KEITH, M.A., M.D. New York: Paul B. Hoeber. 1919.

Prepared as a hand-book for students in a colonial hospital, this little book is a simple, informal outline of methods employed by the author in case-taking. In the form of a notebook the subject matter is arranged under General Examination, Circulatory System, Respiratory System, Digestive System, Nervous System, Excretory System, and a final chapter on Microscopical Examination. No attempt has been made to offer the book as a standard nor to lay claim to superiority of method. It is not technical in its descriptions and is obviously intended as a brief summary of the points to be covered in the elementary physical examination of patients which goes to make up the routine of the medical student's early practical experience.

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THE STATUS OF THE DEFECTIVE DELINQUENT SINCE THE WAR.

UNTIL the large number of defective delinquents in this country was revealed by the war, there was manifested toward this group of citizens little concern outside of the profession and among sociologists. It remained for the statistics revealed by the Provost Marshal General's report to arouse public and legislative opinion to a recognition of the magnitude of this problem and the necessity for further information and suggestions in regard to its solution. In this work, Dr. Guy G. Fernald, Resident Physician of the Massachusetts Reformatory, Concord, has rendered valuable service by discussing the status of the mental delinquent and the possibilities of his reformation and return to some place in society. Of especial interest are two of his articles, "The Defective Delinquent Since the War," and "Current Misconceptions Regarding Reformations."

Of the 442,000 men rejected or discharged from our army during a period of about fifteen and one-half months, in 5.54 per cent. of cases the cause assigned was mental deficiency. It is interesting to compare this figure with 5.36 per cent. rejected for mental and nervous disorders and with .4 per cent. rejected for the misuse of alcohol and drugs. A definite group of 14,417 men of drafted age has been computed as unfit for military service because of mental deficiency. If this ratio of prevalence of mental deficiency found in the army were to be applied to the twenty-four million men enrolled for service we shall have a group of 1,330,000 men liable to rejection for mental deficiency.

The existence of this large group of extra-institutional feeble-minded, including, of course, some defectives of vicious tendencies, indicates the necessity of adequate consideration of the welfare and possible reformation of its members. Certain individuals are good subjects for reformation if their vicious environment be changed to a healthful, moral, and intellectual atmosphere, if this change can be made before the end of the formative period of life, and if the period of healthful environment can be continued beyond the usual penal institution sentence in order that habit formation may assist self-determination when that is tentatively restored. This group of mental delinquents should be segregated completely from all other groups during the period of retraining.

There are undoubtedly some members of the group of defective delinquents unamenable to any method of reformation or rehabilitation. These, after demonstrating their unfitness for community life, must be returned to custody. Hitherto, however, the legal status of defective delinquents has been limited to that of the fully equipped offenders: the latter are subject to the same court procedure and are sentenced to the same penal institutions unless they are found to be insane or feeble-minded to such a degree that they are committed to schools for the feeble-minded. Should not these members of society be judged in the light of their deficiency rather than their delinquency, and measures be adopted so that they can be committed to a suitable environment, a farm colony, perhaps, where their rehabilitation can be at least attempted? Dr. Fernald believes that it is hardly to be expected that our method of placing these people among fully

equipped offenders for a short period of time should lead to any rehabilitation of the defective individual, but that it is probable that a defective committed indefinitely to a farm colony would appreciate the fact that he must "make good" in order to regain his liberty. This situation would call forth his best efforts.

It is commonly believed by many unthinking persons that a wrong method of living can be changed with little difficulty to a right one whenever the attempt is made, and that in some miraculous way a person may be reformed merely by serving a short sentence in a reformatory. The fallacy of this belief has been demonstrated thoroughly, and those who deal with defective delinquents intelligently know that it is a long, difficult, and discouraging process. For this reason we should make every effort to determine the right way to deal with these cases. The first mental activity to be aroused in the offender is believed by Dr. Fernald to be a feeling of regret for the damage which has been done to his own life and to others. The intention to do better in future is the next logical step, which must be followed by some definite constructive plan for better thinking and acting for a period of perhaps five years. During this time, the delinquent should be taught a trade and given what education is possible; he should become one of a group of good associates and friends, and advance considerably on the road to reformation. After some such definite plan has been worked out, the next step for the patient is to make up his mind to follow this plan and determine to adhere to it. The last stage involves going out into the world and living the plan. In many instances, the delinquent may not have sufficient mental equipment to succeed; to care for such cases there should be institutions suitably equipped to train them slowly to form new and better habits of thought and action. Such institutions, or farm colonies, are essential if we are to aid the mental delinquent and make his life a success. Legislative measures to this end are not easy to secure, but it may be hoped that as the need becomes more generally recognized, it will be possible to commit mental delinquents to a favorable environment for a suitable length of time, during which they may be provided with some simple remunerative occupation, education and mental training, and correct medical and moral treatment.

TWO DERMATOLOGICAL PROBLEMS.

WE have received recently reprints of two excellent articles of value and interest, written by Charles J. White, M.D., of Boston. In one of these there is presented a critical analysis of sixty-four cases of lichen planus, observed in the private practice of the author. The disease appears to be a relatively uncommon one, in New England at least. It is subacute, at times an acute disease, affecting largely the educated classes, especially those who have suffered some mental disquietude; it seldom follows as a result of an injury. Of the sixty-four cases observed in this series, during a period of nine years, there were forty-four among the old American stock, six each among German-, Scotch-, and French-Americans, one Armenian, and one patient from Ecuador. The disease appears most commonly between the ages of thirty and sixty, and varies greatly in duration; a few cases last only a few weeks, while others last many months, and some persist even to sixteen years. In this group, although the initial lesions appeared first on the flexor surfaces of the wrists in twenty-one per cent. of the cases, they appeared also on almost every other part of the body, even on the mucous membranes, where the characteristic violet coloration becomes silvery white. The eventual distribution of the eruption may be universal. The typical objective lesion is an almost pathognomonic papule, although many variations commonly occur; the disease is primarily a pruritic one, entailing suffering at times almost unbearable. Pathologically, there has been noted an initial change in the corium and a subsequent epidermic alteration; perhaps the most characteristic pathologic feature is the almost geometrically straight, inferior border of the cellular infiltration. Treatment of these cases was found to have a palliative effect, but their cure seemed to depend largely on natural evolution.

In a second article, Dr. White has discussed the question of epidermophyton infection, basing his observations in this problem of dermatological diagnosis on the study of one hundred and ninety-two private cases. It appears that the epidermophyton is capable of infecting singly the thighs and the adjacent skin, the toes and feet, the fingers and hands, the axillae, the bends of the elbows and of the knees,

the flat surfaces of the trunk and extremities and the scalp, or conjointly any combination of these regions. The infectious agent in this disease is the epidermophyton inguinale, first definitely proved and established in 1910 by Sabouraud. The sources of infection seem to be difficult to determine, there being only two well-defined sources—the use of soiled athletic clothes and the intimate contact with clothing of animal origin. The positive cure of this disease is not easy, inasmuch as a peculiarly penetrative and selective and powerful weapon is needed to destroy the fungus without exerting too strong an organotropic effect. Dr. White has described his methods of treatment, mentioning especially the favorable results obtained by the careful and judicious use of Whitfield's ointment. As there has been little written on this subject from a first-hand knowledge of the disease, and a large proportion of medical practitioners, at least in New England, appear to be ignorant even of the existence of the condition, this paper has been written chiefly for the purpose of emphasizing the importance of the whole question of infection with epidermophyton or its kindred organisms.

ENDORSEMENT OF THE POST-GRADUATE $2,000,000 CAMPAIGN BY THE NEW YORK ASSOCIATION FOR MEDICAL EDUCATION.

THE New York Association for Medical Education, organized last August to develop New York's opportunity to become the medical centre of the world, has endorsed the campaign of Post-Graduate Medical School and Hospital for a $2,000,000 Endowment Fund as "worthy of support because it is an important step toward providing a very necessary training for graduate physicians."

The board of directors, on which every medical school in the city is represented, has given official approval to the endowment campaign. The following remarks have been made by Dr. Wendell C. Phillips, president of the association:

"America must meet the enormous demands of the physician for training that will keep him abreast of the progress of medical science. Post-Graduate is the oldest institution for post-graduate medical training in the nation. It is in an excellent position to do a great work. But if this work is to be done, it must have funds.

Berlin and Vienna have fallen as centres of medical education, but even if they had not, New York's opportunity would be huge, for nowhere else is to be found the wealth of clinical material that this city holds.

"Medical schools and hospitals in New York —and conspicuously Post-Graduate—are bending every nerve to provide the training rendered abroad. If they succeed, the 3,000 to 5,000 physicians who went abroad in the years before the war will come to New York It will mean a saving of time and money, for those trips abroad consumed time and were expensive.

"Institutions to provide this sort of training must be provided at home. We have the instructors, for American physicians and surgeons rank high in the medical world. We must teach our young physicians what they should know and we must give the older ones a chance to learn the new things that medical science is constantly developing."

It has been announced that the Endowment Fund now has reached $545,000.

MEDICAL NOTES.

OUTBREAK OF MEASLES ON THE BRITANNIA.—A message received from Dr. H. G. Ebert, federal port physician, states that an outbreak of measles occurred among the nine hundred immigrants coming from southern Europe on the steamer *Britannia,* due in Providence on April 10. Those suffering from the disease were removed to the Providence City Hospital.

SPOTTED FEVER IN GALICIA.—A report from Berne states that spotted fever is epidemic in eastern Galicia. During the months of January and February, 43,000 cases were reported. In some of the Ukrainian districts numerous villages were almost depopulated and in the mountains the disease was complicated by hunger and typhus.

A PHYSICIAN AS AUTHOR OF "BEN BOLT."—It is interesting to note that the author of "Ben Bolt," for which Thomas Dunn English

was chiefly remembered, was a physician, as well as a journalist, a politician, poet, essayist and novelist. Although his professional and public careers are forgotten, "Ben Bolt" has lived for two centuries. Dr. English was born in Philadelphia in 1819. He served in the New Jersey Legislature during the Civil War, and in 1890 was elected to Congress. He wrote fifty plays, more than a thousand poems, and one novel; yet his fame rests wholly on this one poem, which is known throughout the United States and Canada, England and the British possessions.

TRANSFER OF DR. HUGO FUCHS.—It has been announced that Dr. Hugo Fuchs, professor of anatomy at the University of Königsberg, has been transferred to the University of Göttingen. Dr. Fuchs will succeed Professor Merkel.

ROYAL COLLEGE OF SURGEONS AT EDINBURGH.—The Royal College of Surgeons of Edinburgh has accepted a proposal to admit women as fellows. They will be admitted on the same conditions as the men, and will take the same examinations and be allowed the same privileges.

GIFT TO THE AMERICAN COLLEGE OF SURGEONS.—The sum of $75,000 has been given by the Carnegie Corporation to the American College of Surgeons to be used for hospital standardization. This is the second gift which the corporation has made to the college; in 1916 it gave $30,000, making a total of $105,000. This fund is supplemented by funds of the college.

HONORARY ELECTIONS TO THE ROYAL COLLEGE OF SURGEONS.—The Royal College of Surgeons has elected as honorary fellows Dr. J. M. T. Finney of the Johns Hopkins University and Dr. Charles H. Mayo, of Rochester, Minnesota.

THE NATIONAL CHILDREN'S BUREAU IN BELGIUM.— It has been announced by the Children's Bureau of the U. S. Department of Labor that a national children's bureau has been established in Belgium. It is interesting to note that the law establishing this bureau went into effect several months after the child welfare conferences held under the auspices of our own Children's Bureau in the early summer of 1919. Three child welfare experts represented Belgium at that time.

The functions of the Belgian Bureau are to "encourage and develop the protection of childhood, and especially to further education with regard to rules of child hygiene and to assist in their application, whether in families or in public or private child-caring institutions; to promote the organization of agencies interested in child hygiene, and to assist them by subsidies or otherwise; to assure supervision by the administrative authorities and physicians over the agencies thus protected."

The bureau is directed by a Board of forty members, called the *Conseil Superieur des Oeuvres de l'Enfance*. This Board has the decision on all questions relating to the protection of children; it issues orders concerning the functions of subsidized agencies; it takes necessary measures for the protection of children within the limits of the law, and determines the use of funds at the disposal of the bureau.

To decentralize the work of the bureau, provincial committees are to be established in each province. These committees will consist of from six to twelve members, who will see that the work is organized thoroughly throughout the province and that the orders of the Board are enforced; they will also render opinions or give suggestions to the Board. In addition to this, local committees on which local authorities must be represented are to supervise the infant welfare stations and the agencies which render help to young children and expectant or nursing mothers. One local committee in each community must see that school meals are distributed and special food provided for anemic children. The cost of the school lunches will be met one-half by the state, one fourth by the province, and one-fourth by the community.

The members of the local committees are to meet in regular conference with the provincial committees for the purpose of discussing problems of common interest. All committees, both local and provincial, and the Board are asked to respect the religious and philosophic convictions of the families to which the children belong.

In order to gain the approval of the national children's bureau the infant consultation centers, among other things, must provide for a regular and free physical examination of all children under the age of three in families under the care of the centers and for the organi-

zation of educational work to emphasize the value of infant hygiene and breast feeding. The bureau is to organize a system of supervision over placed-out children under seven years of age.

MEMORIAL TO SIR WILLIAM OSLER.—The following account of a public meeting held in the University Museum, Oxford, on March 6, to initiate a memorial to the late Sir William Osler, Bart., Regius Professor of Medicine in the university for the past fifteen years, has appeared in a recent issue of *Nature:*

Sir Clifford Allbutt, who introduced the proposal, paid a feeling and eloquent tribute to the memory of Sir William Osler, to the wide range of his intellect, and to the singular charm of his character. He referred to his international reputation and to the binding influence he had on the medical profession in many lands, to his love of peace and goodwill, and to the extraordinary power he exerted in diffusing without diluting friendship. The president of Magdalen, Sir Herbert Warren, mentioned the many-sidedness of Osler's interests and activities, the breadth and accuracy of his scholarship, and the clear and steady optimism with which he regarded life and its progress in all ages. Sir William Church, who introduced the specific proposal that the memorial should take the form of an Osler Institute of General Pathology and Preventive Medicine, stated that such a memorial as that suggested would be a singularly appropriate tribute to the outlook and ideals that Osler had kept before him in his life-work. Professor Thomson emphasized the need of new laboratory accommodation in Oxford for teaching and research. The dean of Christ Church and Sir Archibald Garrod also spoke. It was announced that the honorable secretary, Professor Gunn, had received expressions of sympathy with the proposed memorial from a large number of people representing many interests, and that a collateral committee had been formed in America to aid in raising the memorial.

TYPHUS IN RUSSIA.—A report has been made by M. Semashko, Commissar of Public Health, to the effect that the typhus in Russia is at present under control and the sanitary conditions improved. He seems to fear, however, a possible epidemic of cholera during the coming summer. M. Semashko is reported to have issued the following statements:

While there are comparatively few cases of cholera in Russia at present, the disquieting feature is its wide distribution. Our records show that cholera exists in thirty-seven localities. Between December 1 and February 13 there were 425 cases at Cheliabinsk.

The typhus epidemic is well in hand. The disease is most prevalent in the Caucasus, Turkestan and the Ukraine, where the sanitary service has been newly organized. Comparison tables of the cases reported in the army in the last two months show a marked decrease.

The spread of typhus and cholera is being combated with a system of sanitary inspection in institutions and private homes in the cities and villages; the distribution of educational posters and literature emphasizing the importance of cleanliness and also "clean-up" campaigns known as "weeks of cleanliness," the installation of public baths, and the systematic disinfection of railroad cars, 34,000 of which were fumigated in January.

ENDOWMENT FUND GIFTS TO THE NEW YORK POST GRADUATE HOSPITAL.—Mrs. Henry R. Rea of Pittsburgh, Pa., has given $100,000 to the New York Post Graduate Medical School and Hospital's $2,000,000 Endowment Fund. Mrs. Rea's gift, given in memory of her parents, the late Henry W. and Mrs. Oliver of Pittsburgh, is to be used in advancing medical standards by providing for practicing physicians and surgeons additional opportunities for post-graduate study and research. Twenty or more scholarships are to be provided by the fund, and will be available to doctors unable to make the financial sacrifices heretofore required in giving up their practices during the periods of post graduate work.

Mrs. Rea's gift is probably unique among benefactions to educational institutions in that it is for the benefit of active professional men to increase their unselfishness to the community. The doctor's responsibility to the public and the handicaps under which he is placed in keeping abreast of medical progress were particularly apparent to Mrs. Rea during the war, when she served in a volunteer capacity as Field Director of the Walter Reed Hospital in Washington.

Terms under which the scholarships will be available to doctors are now under consideration by the Board of Directors of the Post Graduate Medical School. It is understood that assignment will be based on the recommendations of state and county medical associations. The records of doctors for public service in the communities will also be an important factor in the choice, together with the usual professional qualifications.

In addition to Mrs. Rea's gift, Mr. James C. Brady of New York has given $50,000 towards the first $1,000,000 and has pledged $125,000 to help in raising the $2,000,000. Mr. Vincent Astor has given $50,000 and has promised an additional $75,000 after the first $1,000,000 has been raised. The total amount of the fund at the present time is $329,000.

BOSTON AND MASSACHUSETTS.

THURBER MEDICAL ASSOCIATION.—The Thurber Medical Association held an influenza clinic on April 1 at the Nurses' Home of the Draper Memorial Hospital. The hygienic and administrative aspects of the prophylaxis and control of influenza were discussed by Dr. Donald B. Armstrong, executive officer of the Framingham health community demonstration. Dr. John M. French of Milford delivered an address on the use of bacterial vaccines in the prevention and treatment of influenza. There followed a general discussion of the causes of influenza and methods of treatment.

CASES OF HOOKWORM AT CAMP DEVENS.—Three men of the Regular Army troops stationed at Camp Devens have developed well defined cases of hookworm disease and are confined to the camp hospital for treatment and observation. The development of this disease in this latitude and climate is very unusual. No one of the three men afflicted was born or has seen service in tropical countries, where the hookworm malady is supposed to originate.

There are at present forty men with various diseases confined to a section of the original base hospital plant, which is being utilized as a camp hospital. The rest of the institution, capable of caring for more than two thousand patients, is closed.

THE BOSTON LYING-IN HOSPITAL.—The following statistics relative to the work of the Boston Lying-In Hospital have been published in the condensed annual report for the year ending December 31, 1919. There were admitted to the hospital 1,048 patients, of whom 92 per cent. were married. About one-fifth of these were free cases: the remainder paid on an average less than one-half of the cost of their care. The mortality was 20, or 1.9 per cent. The average daily number of adult patients admitted was 40, with an average stay in the hospital of 15.6 for delivered patients. Eight hundred and ninety babies were born and cared for.

In the Out-Patient Department, 6,992 visits were made to the pre-natal clinics by 2,698 patients. The importance of this service with the home supervision of the District Nurses and the Medical-Social Service Nurses cannot be overestimated. It means that practically all of the patients are first seen in these clinics, where any abnormal condition may be recognized and corrected if possible, or proper preparation made to meet the situation before the patient goes into labor. It is the means of saving many lives and relieving much suffering. One thousand two hundred and thirty-two patients were attended at confinement in their homes, involving about 12,400 visits by attending house officers and externes. There were 1,245 babies born and cared for by the Out-Patient Department.

Eight house physicians were given six months' intensive obstetrical training, 187 medical students were given special training, and 66 nurses with special obstetrical training were graduated.

During the last forty-seven years, 26,839 patients have been treated in confinement in the hospital; 26,156 babies have been born or cared for in the hospital; 51,028 patients have been attended in their homes, and 50,599 babies have been born or cared for in homes. Diplomas have been granted to 811 nurses and to 275 house officers. Four thousand eight hundred and fifty-three medical students have been given special training.

WEEK'S DEATH RATE IN BOSTON.—During the week ending April 10, 1920, the number of deaths reported was 255 against 292 last year, with a rate of 16.45 against 19.12 last year. There were 42 deaths under one year of age against 50 last year.

The number of cases of principal reportable diseases were: Diphtheria, 30; scarlet fever, 65; measles, 210; whooping cough, 80; typhoid fever, 1; tuberculosis, 43.

Included in the above were the following cases of non- residents: Diphtheria, 7; scarlet fever, 23; measles, 1; tuberculosis, 7.

Total deaths from these diseases were: Diphtheria, 5; scarlet fever, 1; measles, 3; whooping cough, 7; tuberculosis, 12.

Included in the above were the following non-residents: Diphtheria, 2.

Influenza cases, 13; influenza deaths, 2.

BEQUESTS TO MEDICAL INSTITUTIONS.—By the will of the late Mr. Grant Walker of Weston, the sum of $10,000 has been bequeathed to the Free Hospital for Women and $5,000 to the St. Luke's Home for Convalescents in Roxbury.

RED CROSS EXECUTIVE SECRETARY.—Mr. Seymour H. Stone has been appointed executive secretary of the Boston Metropolitan Chapter of the Red Cross. Mr. Stone has had a wide experience as a social worker. For several years he assisted the Boston Children's Aid Society. After serving in the Spanish War, he became superintendent of the New Jersey State Board of Children's Guardians. In 1904 he returned to Boston to take charge of the work of the Boston Children's Friend Society and in 1909 he became secretary of the Boston Tuberculosis Association. During the war Mr. Stone was engaged in War Camp Community Service work as supervisor for New England. In the summer of 1918 he entered the service of the American Red Cross overseas and was a member of the tuberculosis department in Italy.

GIFTS TO MEDICAL INSTITUTIONS.—The following bequests were made in the will of the late Mrs. James A. Woolson of Cambridge: $5,000 to the New England Deaconess Hospital, $3,000 to the Woman's Aid Association of the Cambridge Hospital, and $1,000 to the Cambridge Visiting Nurse Association. At the death of her husband, a bequest was made to the Cambridge Hospital for adding a wing to the building. As this sum was found to be insufficient, a sum not to exceed $10,000 was provided by the will of Mrs. Woolson to make up the deficit.

GREATER BOSTON MEDICAL SOCIETY.—The annual dinner and dancing party of the Greater Boston Medical Society was held on April 13 at the Hotel Somerset. Dr. Albert A. Shapira presided, and more than one hundred guests were present. The speakers of the evening included Dr. Louis Arkin, and Dr. Philip Castleman, president of the society.

MASSACHUSETTS HOMEOPATHIC SOCIETY.—The eightieth annual meeting of the Massachusetts Homeopathic Society was held on April 14 at the Homeopathic Hospital in Boston. During the morning, special clinics were held in the Out-Patient Department, at which interesting cases were presented and methods of treatment demonstrated.

During the business meeting of the afternoon committee reports were submitted by Dr. Herbert C. Clapp for the fund committee; Dr. Wesley T. Lee, legislative; Dr. Harry J. Lee, registration and statistics; and Dr. David L. Belding, elections. Dr. Frank A. Gardner, necrologist, also made a report.

Among the papers read were, "The Relation of Certain Factors of Hospital Administrational Work," by Dr. H. M. Pollock, superintendent of the Massachusetts Homeopathic Hospital; "Gastric Ulcer," by Dr. Charles T. Howard, surgeon of that hospital; and "Focal Infection, Some Complications and Sequelae," by Dr. W. F. Phillips, physician at the hospital.

At the annual dinner, held in the evening, Dr. Wesley T. Lee, president, addressed the society on "The Demoralization of Medical Practice."

NEW ENGLAND NOTES.

HEALTH DEPARTMENT OF MAINE.—The Health Department of Maine has been developed and reorganized during the past winter. Under the direction of Dr. Leverett Dale Bristol as health commissioner, with a staff of thirty paid workers and an advisory council, it has become thoroughly equipped to care for the physical well-being of the people of Maine. Modern health legislation has been introduced, scientific investigation organized, and systematic training of the people themselves in the principles of right living has been undertaken. A building on the east side of the Kennebec river in Augusta has been given over to the department of health and is the center of its administration. This building has two laboratories and several offices, yet the growing needs of the department have made it necessary to plan additions over the north and south wings. There are branches of the health department, under the direction of the local health officers, in the cities and towns throughout the state. The local health officers are supervised by district health officers, of whom there are eight, one in charge of each of the eight districts which have been organized.

Dr. Bristol, under whose supervision the local and district health officers carry on the work, has had extensive training and experience. He received the degree of Doctor of

Medicine at Johns Hopkins in 1907, and the degree of Doctor of Public Health at Harvard in 1918. He has been connected with the medical faculties of the universities of North Dakota, Minnesota, Syracuse, and Harvard, and has had a wide practical experience in his profession in hospitals and clinics and health departments in New York, Massachusetts, Connecticut, Minnesota, and North Dakota. He has been interested particularly in tuberculosis and cancer and has been officially associated with national, state, and local antituberculosis organizations. He is a member of the executive committee of the Maine Antituberculosis Association. Dr. Bristol holds the position of state registrar, and personally takes charge of the division of administration and of the division of vital statistics.

Other divisions of the health department are conducted under the general supervision of Dr. Bristol by division directors. The division of sanitary engineering takes care of the analysis of water, sewage, and dairy products and coöperates closely with the public utilities commission, which has charge of all the Maine water supplies. The diagnostic laboratory concerns itself with the work formerly done by the hygienic laboratory and has taken up additional lines of work, including free examination for tuberculosis, typhoid fever, infantile paralysis, cancer, and other diseases. Dr. A. G. Young, director of the division of communicable diseases, has served the health department for thirty-five years. Since its reorganization he has rendered invaluable service in preparing for the people of Maine information concerning the care, cure, and prevention of communicable diseases.

In recognition of the fact that coöperation with the public is necessary in order to gain effective results, the division of public education and publicity has been established in order to make expert knowledge available to the people. In this work the daily and weekly papers are coöperating in dispersing public health information. Other media for publicity work are a weekly news letter, a monthly Health News Bulletin, and a monthly scientific publication.

The public health council, of which Dr. Bristol is chairman, is the governing body of the state department of health. Its membership includes Dr. Sylvester J. Beach of Augusta, Mr. Hiram W. Ricker of Poland Springs, Dr. R. M. Small of Portland, and Mr. James O. Gulnac.

WAR RELIEF FUNDS.—New England War Relief Funds have announced the following amounts of total contribuations:

French Orphanage Fund	$579,761.87
Italian Fund	325,462.40
Argonne-Champagne Fund (closed)	10,674.50

ADMISSION OF WOMEN TO MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.—Acting President G. W. Bailey of the University of Vermont and Dean H. C. Tinkham of the medical school have announced that women will be admitted to the medical department of the university next fall for the first time in its history. This action was decided upon by the board of trustees at the institution because of the great shortage of doctors throughout the rural districts of northern New England and New York state.

It is expected that although all courses will be open to women, few will take up surgery, the majority confining themselves to institutional and laboratory work and in studying children's diseases. There are a large number women in New England colleges who have had necessary preparation for this work.

Correspondence.

A SEVENTEENTH CENTURY PRESCRIPTION.

We have received recently a copy of the following interesting letter written by Dr. William Avery in the year 1663:

"Reverent Courteous and much esteemed:—

"I have according to my weak understanding considered of your request to me concerning the poor lame man, but the Lord that is only wise, though in a gracious and gentle manner, hath visited me so that I cannot come to your town at present. I do not understand what the malady is—whether it is a fistular or a cancer. If it be a fistular or foul ulcer it must have one way of dressing; but if it be a cancer it must be dressed another way. I fear it is a cancer and then sharp medicines will not prevail unless they be caustics and then there had needs be skilled hands to apply them. Actual cauteries is of all things considered most effectual and safest; yet it is very afflicting and is therefore not so frequently used. But if it be a fistular then it ought to be syringed with some restringent water, if it might be to the bottom to cleanse it. (Viz. take Verdigrease Alum and white copras of each an ounce made in fine powder, then take a quart of white wines or Smiths water being clarified, put in the ingredients into the water and

make it boil a little, take off the scum with a feather and let it cool and then put the clear into a glass to syringe into the orifice and use that which is thick to dress the proud flesh withal and if you use it hot it will suppress it the more but if it be a cancer this will prevail very little. You may also make an ointment to dress the sore after it is washed: take Verdigrease in fine powder one ounce and then take as much resin and beeswax as a nutmeg of each of them, put them into a skillet and melt them, then take clear hogs suet 4 oz., put in that and melt it also, then put in your Verdigrease—beware it boils not over—and let it be mixed, then put in 2 oz. Turpentine, melt that and it is done. This ointment you will find very little inferior to that which is so highly considered by Surgeons called Ung. Epistolorum; with this you treat the sore after it is washed—or with the ointment called Egiptian it is made with Verdigrease honey and vinegar boiled to a red ointment but in these things I speak at a venture not knowing the case that I answer to but if anything had been propounded to consideration I should have given my advise though but weak or if I could have had more particular knowledge of the disease I might speak more fully to it but in the meantime I hope that which has been said will be no means to hinder the good woman from doing the best she can in the case that is of such necessity and though I can give no better advice at present yet I shall desire the Lord to direct her and bless her endeavors and rest yours to my favor though unworthy to be expressed.

WILLIAM AVERY.

from Dedham this 5th of the 3rd. 1663."

NARCOTIC DRUG BILLS IN NEW YORK LEGISLATURE.

New York, April 8, 1920.

Mr. Editor:—

The postponement of the hearing on the narcotic drug bills now before the New York Legislature until later in the session, should give the physicians of this state, as well as the public, an opportunity to be heard in regard to this form of legislation. One of these bills prohibits the fifteen thousand physicians of this state from treating cases of drug addiction otherwise than under enforced institutional restraint.

This bill has the endorsement of the State Medical Society given by its House of Delegates, a body which, as is well known, is not a scientific but a legislative one. This recommendation is founded upon the findings of a committee appointed a year ago by the state society, none of the members of which committee can be credited with any special knowledge on the subject of drug addiction. In addition, almost all those consulted by this committee and upon whose testimony they have based their conclusions, are interested in correctional, curative, or public medical institutions.

Drug addiction is now pretty definitely classified as a disease rather than a habit or a vice which it was claimed to be originally by those now interested in its institutional treatment. This being the case, physicians have been urged by those competent to advise them on the subject to study this disease and to treat these patients as they would those suffering from any other form of disease. On the other hand, repressive legislation of all kinds tends to force sufferers from drug addiction, whether curable or not, into the hands of institutionalists or into illicit channels of supply.

One of the methods most calculated to bring about these conditions is that of including drug addiction among the contagious diseases and compelling physicians everywhere throughout the state to report it to the authorities as is now done only in New York City.

A law of this kind coupled with the ruling already laid down defining a drug addict in this state as any one to whom morphine has been administered during a period of thirty days, would extend the control of the sanitary authorities to every case of sickness, acute, chronic, or incurable, in which this drug was thus employed. On this account alone any law of this character should be opposed, not only by the physicians of the state, but by the general public as well.

JOHN P. DAVIN, M.D.

117 West 76th Street.

NO PHYSICIAN NOR SURGEON AS YET IN THE HALL OF FAME.

Mr. Editor:

Soon there will be the fifth quinquennial election to the Hall of Fame. The first took place in 1900 immediately after the funds had been given anonymously for the building of a permanent monument to the men and women who had contributed most to the nation's well-being and culture. According to the constitution drawn up at the time, it was agreed that at the first election fifty national figures in art, science, and history should be chosen and that thereafter five were to be added every five years.

The method of procedure in placing a man or woman's name on a tablet in the Hall of Fame is such as to allow no question or doubt as to the person's eligibility. The senate of the New York University, which is made up of the Dean and senior professor of each of the university schools with the presidents or other representatives of each of the great theological schools in or near New York City, chooses the electors. There are a hundred of these. Every state in the Union is represented by at least one man. These hundred men are chosen by virtue of their eminence in some branch of national culture. They fall into seven main divisions: authors, presidents of universities or colleges, scientists, professors of history, jurists, high public officials or men or women of affairs, and editors. When the names are sent in to the Senate of the University they are considered on the basis of constitutional qualifications. Not the least important of these qualifications is the one requiring that the nominee must have been deceased at least ten years.

It is with delight that we see, I believe for the first time, the name of a physician among the electors, the chosen one being Dr. Charles H. Mayo of Rochester, Minn. Perhaps this is a good omen and indicates that one of our own profession may at last be among the immortals. It is true that Oliver Wendell Holmes was a physician, but his name has been chosen for the Hall of Fame as belonging to Group I, authors, of which there are now 14. Group II are educators and number 4; Group III, preachers and theologians, 4; Group IV, philanthropists and reformers, 3; Group V, scientists, 5; Group VI, engineers and architects, none; Group VII, physicians and surgeons, none; Group VIII, inventors, 4; Group IX, missionaries and explorers, 1; Group X, soldiers and sailors, 4; Group XI, lawyers and judges, 4; Group XII, rulers and statesmen, 11; Group XIII, business men, none; Group XIV, musicians, painters, sculptors, 2; Group XV, eminent men outside of classes mentioned, none.

William T. G. Morton, the discoverer of ether anesthesia, had once been proposed under Group VII, but failed in the election. I do not know whether or not the constituiton of the Senate of the New York University permits a renomination. I hope there will be no barrier to renominating the "inventor and revealer of anesthetic inhalation, before whom in all time surgery was agony,"* and of whom Sir William Osler speaks as follows in his "Man's Redemption of Man:" "On October 16, 1846, in the amphitheatre of the Massachusetts General Hospital, Boston, a new Prometheus

* From a monument erected to his memory at Mount Auburn, Cambridge, Mass.

gave a gift as rich as that of fire, the greatest single gift ever made to suffering humanity. The prophecy was fulfilled—'neither shall there be any more pain;' a mystery of the ages had been solved by a daring experiment by man on man in the introduction of anesthesia."

The next two greatest figures in American medicine and surgery are perhaps Ephraim McDowel and J. Marion Sims. McDowel performed the first rational and deliberate ovariotomy, which he did in 1809, and of course, without an anesthetic; his patient living for 32 years after the operation. As is well known, J. Marion Sims (1813-1883) gained for himself a national and international reputation by his invention of the speculum as an instrument for the treatment of pelvic diseases in women, and by his perfecting the plastic operation in the vagina for the relief of vesical fistulae.

The nominations must be sent in to the Senate of the New York University, University Heights, New York City, before May first. Besides erecting the tablet in the Hall of Fame, the Senate of the New York University is now considering collecting the works, where it is possible, of all the men and women who have thus been honored by the nation. They hope in this manner to create a valuable "Americana," open for study and inspection.

I am sending this letter to as many of our American medical journals as possible so that each and every American physician who has a just pride in his profession at heart may do his share to see that a recognition to medical and surgical science equal to that of other professions is given at last. While there may be other great physicians and surgeons in the past generations who have distinguished themselves so as to be worthy to be classed with "America's Greatest," I venture to say none has surpassed the achievements of Morton, McDowel, and Sims. These were real pathfinders in science and added to human happiness and well-being and the glory of the American medical profession.

Let every American physician send one, two, or all three of these names to the above mentioned address of the Senate of the New York University, stating that this is his choice of America's great men for nomination for the Hall of Fame.

S. ADOLPHUS KNOPF, M.D.

UNITED STATES CIVIL SERVICE EXAMINATION

PHYSICIAN, PANAMA CANAL SERVICE,
MAY 5 AND JULY 7, 1920.

The United States Civil Service Commission announces an open competitive examination for physician, on the above dates, at the usual places of examination. Vacancies in the Panama Canal Service at the salaries indicated, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The entrance salary is $200 a month; promotion may be made to $225, $250, $275, $300, and to higher rates for special positions.

Both men and women, if qualified, may enter this examination, but appointing officers have the legal right to specify the sex desired in requesting certification of eligibles. For the Panama Canal Service male eligibles are desired.

Applicants must be unmarried; must have graduated from a recognized medical school whose graduates are eligible for commission in the United States Army; and must have had at least one year's post-graduate hospital experience.

Statements as to training and experience are accepted subject to verification.

Applicants must have reached their twenty-second but not their thirty-first birthday on the date of the examination. Age limits do not apply to persons entitled to preference because of military or naval service.

Applicants must submit to the examiner on the day of the examination their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Proofs or group photographs will not be accepted. Photographs will not be returned to applicants.

Before being permitted to sail for the Isthmus appointees must undergo a rigid physical examination by a designated physician after the appointment has been actually issued. There will be no charge for this examination, but the appointee must pay his transportation to the place of examination. The official physicians are located at the ports of departure and in a number of the large cities throughout the United States.

This examination is open to all citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., or to the Secretary of the United States Civil Service Board at the principal cities of the United States. Applications should be properly executed, including the medical certificate, but excluding the county officer's certificate, and filed with the Commission at Washington, D. C., in time to arrange for the examination at the place selected by the applicant.

SOCIETY NOTICE.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.—The annual meeting of the Essex North District Medical Society will be held in Russell Hall, Y. M. C. A. building, 40 Lawrence Street, Lawrence (Tel. 1260) Wednesday, May 5, 1920.

Dinner will be served at 12.30 o'clock, sharp.

After the dinner, the business meeting will occur at 1.45.

The report of the committee on lodge practice will be discussed.

Papers will be presented as follows: Howard A. Streeter, M.D., A. A. Surgeon, United States Public Health Service, and Chief, Sub-division of Venereal Diseases, Department of Public Health of Massachusetts, upon "The Massachusetts Venereal Disease Program." (40 minutes.)

Alfred Worcester, M.D., of Waltham, President of the Massachusetts Medical Society, has accepted an invitation to be our guest. He will speak upon the matter of compulsory health insurance. (20 minutes.)

General discussion is invited (5 minutes each).

Meeting of the Censors will be held at Hotel Bartlett, Main Street, Haverhill, (Tel. 8710) on first Thursday in May and in November, at 2 P.M., sharp. Candidates for admission to the Society should present their diploma to the Secretary of the Society two weeks in advance.

Will each Fellow invite worthy non-members to confer with the Secretary?

J. J. O'SULLIVAN, M.D., *President*,
J. FORREST BURNHAM, M.D., *Secretary*,
301 Essex St. (Room 411), Lawrence, Mass.